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THE RELATION OF OCCUPATIONAL NEOPLASIA TO THEORIES OF CANCERIGENESIS

I. CONSIDERATION AND CLASSIFICATION OF THEORIES

BRIEF references were made frequently in preceding chapters to the relation of various types of occupational neoplasms to different theories of carcinogenesis. The inadequacy and the contradictory nature of the conceptions held represent a factor which is apt to influence seriously the general attitude toward the cancer problem, especially the aspects connected with the technical, hygienic and medical measures of preventive and prophylactic type. Inasmuch as an effective future control, not only of occupational cancers but also of cancerous growths in general, depends to a not inconsiderable degree upon a proper appreciation of the causes and causative mechanisms that produce these disorders, a comprehensive analysis of the relative merits of different theories of carcinogenesis, with due consideration of data supplied from a study of occupational tumors, appears to be pertinent and valuable.

The numerous theories which have been advanced to explain the phenomenon of the malignant neoplastic growth may be placed in one of the following two main groups:

I. Theories based on morphological studies and relating to the formal genesis of cancers.

1. Cohnheim's theory of cancerigenesis from embryonic, misplaced cellular foci.
2. Ribbert's theory of cancerigenesis from groups of differentiated cells which became detached during fetal or postfetal life from their normal environment.
3. Virchow's theory of cancerigenesis from cells chronically irritated or stimulated by inflammation producing agents.
4. Tissue senescence theory of cancerigenesis from cells undergoing physiological or pathological atrophying, senile changes.

II. Theories based on biological cellular changes and relating to the causative genesis of cancers.

1. Theories considering cancerigenesis as the result of a direct action of a physical or chemical agent upon some component part of a cell or groups of cells, whereby the agent may be of animate or inanimate nature and of endogenous or exogenous origin.
2. Theories regarding cancerigenesis as the result of a specific disturbance